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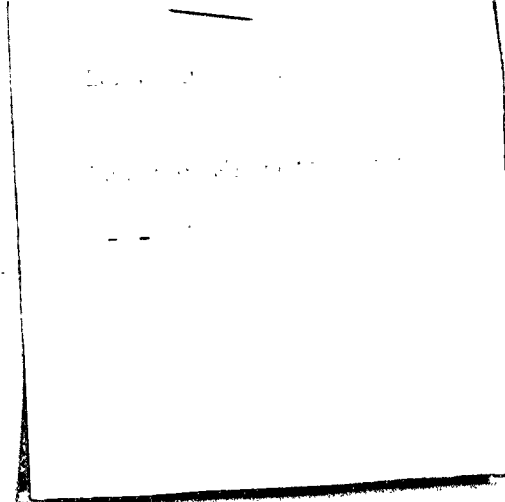
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HEADQUARTERS
AIR WEATHER SERVICE
ANDREWS AIR FORCE BASE
Washington 25, D. C.

LOCAL FORECASTING STUDY

Kwajalein Island
Marshall Islands

1. First Study, 1 July 1944, (typescript)

NOV 13 1944

Property of
U. S. ARMY AIR FORCES
WEATHER DIVISION
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BASE WEATHER STATION
KWAJALEIN ISLAND
Marshall Is.

First study

TM36
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(3) *Sy de*

1 July 1944

CLASSIFICATION CHANGED TO

SUBJECT: Studies on Local forecasting.

TO : Regional Control Officer, Seventh Weather Region, APO # 955,
c/o Postmaster, San Francisco, California.
THRU: Asst. Regional Control Officer, F/E, Seventh Weather Region,
APO # 241.

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By authority of

CHIEF, AIR WEATHER SERVICE

1. Geographic and Topographic Considerations.

8 July 1946
Date

JM
Initials

a. Location:

Kwajalein Atoll is located at 167.5 E and 9.1 deg. north lat. Kwajalein Island is at the southern tip of the Atoll at 8°44' N. lat. and 167°44' E. long. The weather station is located near the center of the island just off the eastern third of the runway. For exact position see attached map of island.

b. The coral island is flat with the highest elevation at about 9 ft.

(1) There are no up-slope or down-slope effects and smoke is non-existent.

c. Photographs showing exposure of instruments and general local topography are unavailable at present.

d. There are no peculiarities of air circulation as the island lies at the southern portion of the northeast trades.

e. There is no air drainage, valley winds, or fog.

2. Climatic considerations (Compiled from observation from Feb. thru June '44.)

a. Climatic regime:

The island is under the influence of maritime tropical Pacific air during all seasons. The prevailing winds have been east northeasterly with infrequent shifts to east southeast during rain showers. Polar fronts rarely reach the vicinity of the station, tho on a few occasions trailing cold fronts have passed the station from northwest to southeast. They were oriented ENE-WSW. The weather associated is weak and characterized by a slight increase in high cloudiness followed by scattered rain showers. However, due to the lack of reporting stations these weak systems are difficult to identify and even more difficult to follow accurately. At present the station is experimenting with upper troughs in the easterlies moving from east to west. There is nothing definite to report on this yet.


b. Marked climatic peculiarities (see attached chart)


c. The intertropical front is the main frontal system affecting the weather at this station. During the five months that this station has been in operation the mean position has ranged from 8° S. lat. to 8° N. lat. However, on three occasions it has moved north thru lat. 8°. Twice in May and once in June it approached close enough to affect the weather at this station. Four inches of rain fell during a three day period in May which almost equaled the amount that fell during the remainder of the five months of station operation.

d. Since the total rainfall during the five months of station operation has been slightly under nine inches, there is very little to report regarding typical weather conditions during frontal activity. The main type of weather phenomenon has been rain showers which occurred during all hours of the day. The pressure pattern at the station has remained the same with very few exceptions when it deviated from the normal diurnal rises and falls. These exceptions were not indicative of any weather changes, however. During the three day period when four inches fell the barometer showed the usual diurnal pattern. Prior to this three day period the pressure was normal and the predominating clouds were cumulus.

e. This is a preliminary report and supplements will be added periodically.

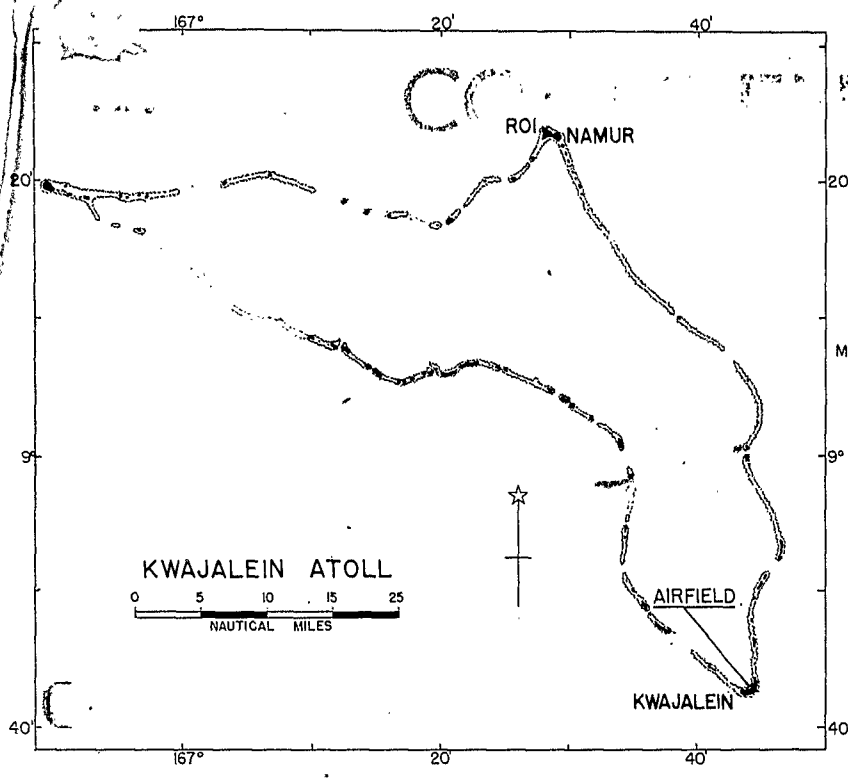
000.92 1st Ind. TFK/hw
REGIONAL CONTROL OFFICE (F/E), SEVENTH WEATHER REGION, APO #241, 4 July 1944.

TO: Regional Control Officer, Seventh Weather Region, APO #953.


T. F. Kelley
T. F. KELLEY,
Major, Air Corps,
Asst. Regional Control Officer.

NORMAL MONTHLY EXPECTANCY OF WEATHER AT KWAJALEIN ISLAND

TYPE WEATHER	1944					
	Feb	Mar	Apr	May	Jun	
Number of hours of ceiling under 400	0	0	0	1	0	
Number of hours of ceiling under 700	0	0	0	1	0	
Number of hours of ceiling under 1100	0	0	0	2	0	
Number of hours of visibility under 1/5	0	0	0	1	0	
Number of hours of visibility under 3/4	0	0	1	1	2	
Number of hours of visibility under 2 1/4	0	1	1	7	3	
Number of hours with precipitation	0	37	20	104	71	
Total precipitation, inches	0.00	0.59	0.43	5.60	2.26	
Number of hours actual sunshine	194	176	187	131	173	
Percentage possible sunshine	54	47	52	38	48	
Number of hours with thunderstorms	0	0	0	0	0	
Number of hours with dense fog	0	0	0	0	0	
All-time temperature records: HIGH	93	95	95	90	89	
LOW	74	76	74	74	73	
Mean temperature for month	84	84	84	82	83	



MAG. VAR'N. 7 3/4° E. (APPROX.) 1944
INCREASING 1 ANNUALLY

N.O.B. PIER

PREVAILING WINDS

WX STATION

CENTER PIER

CONTROL TOWER

RUNWAY 150' X 6300'

66° Mag. (approx.)